



Class I Increment

Applicants are required to determine compliance with the Prevention of Significant Deterioration (PSD) Class I increment standards for each Class I area under consideration. The PSD increment standards are the maximum ambient concentration increase that can occur above a baseline. When the amount of “new” pollution exceeds the increment standards, significant deterioration has occurred. In order to determine the amount of increment consumed, the applicant must consider the emissions increase due to the new source or modification in addition to off-site emissions increases since the baseline date.

In order to determine if a cumulative assessment is necessary, a facility must complete a preliminary model analysis. Typically, this analysis should only include the proposed source or modification so it can be determined if a significant modeled impact will take place. If the model predicts the high first high to be below the thresholds outlined in the Environmental Protection Agency’s (EPA) draft rulemaking contained in the Federal Register dated Tuesday, July 23, 1996, refer to Table 1, no further analysis is necessary and the modeling study can be deemed complete provided it follows the Federal Land Managers (FLMs) minimum modeling requirements.

Table 1 Prevention of Significant Deterioration Class I Significant Impact Levels Increments		
Pollutant	Averaging Period	Class I Area Concentration
		<i>($\mu\text{g}/\text{m}^3$)</i>
TSP	Annual	----
TSP	24-Hour	----
SO ₂	Annual	0.10
SO ₂	24-Hour	0.20
SO ₂	3-Hour	1.00
PM ₁₀	Annual	0.20
PM ₁₀	24-Hour	0.30
PM _{2.5}	Annual	0.06
PM _{2.5}	24-Hour	0.07
NO _x	Annual	0.10

If the thresholds contained within Table 1 are exceeded, a cumulative analysis to determine compliance with the Class I increments must be conducted, refer to Table 2. This analysis is more rigorous than the significance determination and must include other increment consuming sources. The Construction Permit Modeling Unit will provide a model ready interactive (increment consumers) source input file to the applicant. All interactive source inputs should be explicitly modeled.



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Pollutant	Averaging Period	Class I Area Concentration
		<i>($\mu\text{g}/\text{m}^3$)</i>
TSP	Annual	5
TSP	24-Hour	10
SO ₂	Annual	2
SO ₂	24-Hour	5
SO ₂	3-Hour	25
PM ₁₀	Annual	4
PM ₁₀	24-Hour	8
PM _{2.5}	Annual	1
PM _{2.5}	24-Hour	2
NO _x	Annual	2.5

All Class I increment compliance determinations, including the determination of significant impact, should be completed through the execution of the CALPUFF modeling system if the facility is located more than 50-kilometers from a Class I area, refer to the following documents for recommendations and default modeling options: [Meteorological Data & CALMET](#) and [Emissions Data, Receptor Grids & Other CALPUFF Inputs](#).

The CALPUFF modeling system will produce a concentration file for use in the post processing tool, CALPOST. CALPOST will calculate ambient impacts based upon user specified pollutants and averaging periods. If the predicted values exceed the Class I increment standards, the FLM should be contacted for additional guidance.

It is important to note that if the facility is located less than 50-kilometers from a Class I area, the applicant will be required to use the AERMOD modeling system to determine compliance with the increment standards. Contact information for the FLMs can be found in the following document: [Class I Areas and Federal Land Managers](#).